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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,787	12/28/2001	Satoshi Niiyama	217911US0CIP	2834

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EXAMINER

DUONG, THOI V

ART UNIT PAPER NUMBER

2871

DATE MAILED: 09/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

RP

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/028,787	NIIYAMA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thoi V Duong	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 ~~is~~/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 ~~is~~/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \*   c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(a) as being anticipated by Tanaka et al. (USPN 6,072,558).

As shown in Figs. 1 and 12, Tanaka et al. discloses a liquid crystal optical element comprising an upper substrate 5A with an upper transparent electrodes 4A, a lower substrate 5B with a lower transparent electrode 4B (col. 38, lines 31-46) and a liquid crystal layer 21 interposed between the substrates and having a memory property (col. 35, lines 4-12 and col. 36, lines 60-66), wherein a first resin layer 2B is provided on the lower transparent electrode 4B, a rubbed alignment surface of said first resin layer is arranged to be in contact with the liquid crystal layer (col. 10, lines 20-29),

wherein the first resin layer 2B is provided only on the lower substrate 5B on a side opposite to an observing side (col. 36, lines 8-25); and

wherein the upper electrode 4A has a second resin layer 2A provided thereon, the second resin layer 2A is provided in contact with the liquid crystal layer.

3. Claims 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Mukoh et al. (USPN 4,278,328).

As shown in Fig. 2C, Mukoh et al. discloses a liquid crystal optical element comprising a pair of substrates 6 with transparent electrodes 7 and a liquid crystal layer 1 interposed between the substrates and having a memory property (col. 12, lines 23-42 and Table 4),

wherein at least one of the transparent electrodes has a metal-oxide layer provided thereon, and the metal-oxide layer is provided in contact with the liquid crystal layer (col. 5, lines 34-48); and

wherein the paired transparent electrodes have a drive voltage of 10V applied thereacross (col. 6, lines 24-32 and col. 14, lines 50-53).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 and 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (USPN 6,072,558) as applied to claims 1 and 2 above in view of JP 08-220326 (JP'326).

Tanaka et al. discloses a liquid crystal element that is basically the same as that recited in claims 3 and 4 except that the surface hardness of the second resin layer is not disclosed. JP'326 discloses that a polyimide contact layer having a pencil hardness of less than HB formed on a color filter substrate to improve adhesion property and maintain high transparency (See Abstract, Table 1 and paragraph 47). Thus, it would

have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal optical element of Tanaka et al. with the teaching of JP'326 by forming on the other electrode a second resin having a surface hardness of B or less to improve adhesion property and maintain high transparency for the display.

6. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukoh et al. (USPN 4,278,328) as applied to claims 5 and 6 in view of West et al. (USPN 5,453,863) and JP 08-220326 (JP'326).

Mukoh et al. discloses a liquid crystal optical element that is basically the same as that recited in claims 7 and 8 except for a second resin layer having a surface hardness of B or less. As shown in Fig. 1, West et al. discloses a liquid crystal element comprises glass plates 10, 11, ITO transparent electrodes 13 and an optional surface coating 14 which can be applied to one of the electrodes (col. 6, lines 35-46). A suitable material of the surface coating 14 may be polyimide (col. 7, lines 2-10). Meanwhile, JP'326 discloses that a polyimide contact layer having a pencil hardness of less than HB formed on a color filter substrate to improve adhesion property and maintain high transparency (See Abstract, Table 1 and paragraph 47). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid crystal optical element of Mukoh et al. with the teachings of West et al. and JP'326 by forming on the other electrode a second resin having a surface hardness of B or less to improve adhesion property and maintain high transparency for the display.


### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (703) 308-3171. The examiner can normally be reached on Monday-Friday from 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached at (703) 305-3492.

Thoi Duong

08/22/2003

  
ROBERT KIM  
SUPERVISOR  
AUG 22 2003